

## **SPATIAL REFERENCE SYSTEM**

### **ABSTRACT OF THE DISCLOSURE**

The present invention overcomes the disadvantages of the related art by providing a spatial reference system that includes at least one artifact assembly. The artifact assembly has a measuring bar assembly including an inner member with a proximate end and a distal end, an outer member with a proximate end and a distal end, and a compensating member with a proximate end and a distal end operatively disposed between said inner and said outer members. The distal end of the outer member is fixedly mounted to the distal end of the compensating member. The proximate end of the compensating member is fixedly mounted to the proximate end of the inner member. The inner and the outer members each have a predetermined length and a predetermined coefficient of thermal expansion and the compensating member has a predetermined length and a predetermined coefficient of thermal expansion, such that the thermal expansion of the inner and the outer members is substantially eliminated by the expansion of the compensating member.